

THREE NEW SPECIES OF THE GENUS *PROTOPTILA*  
FROM MEXICO AND COSTA RICA  
(TRICHOPTERA: GLOSSOSOMATIDAE)

Joaquin Bueno-Soria

*Abstract.*—Three new species of *Protophila* (Trichoptera: Glossosomatidae) from the tropical regions of Mexico and Costa Rica are described—*P. pseudopiacha*, *P. tica*, and *P. ticumanensis*. The male genitalia are figured and described.

---

*Protophila* is a very large genus found North, Central, and South America and is especially speciose in the tropical areas of Mexico. The larvae of *Protophila* inhabit small streams with clean, clear, temperate waters.

The members of the genus found in the tropical areas have been studied by Mosely (1937, 1954) and Flint (1967, 1974); however, there are still many undescribed taxa of the genus from Mexico and Central America. The material described here will be deposited in the collections of Instituto de Biología, Universidad Nacional Autónoma México (IBUNAM) and the National Museum of Natural History, Smithsonian Institution (USNM).

*Protophila tica*, new species

Fig. 1

*Adult.*—Length of forewing, 2.5 to 3 mm. Color unknown in alcohol. Sixth sternum with compressed midventral point.

Male genitalia: Eighth sternum with mesodorsal, pointed process; with rounded apical border; deeply and widely divided mesoventrally. Ninth sternum produced posteriorly to scooplike structure with pair of small apical lobes. Tenth tergum with somewhat rectangular basal section; apical section small, rather quadrate, bearing small, pointed, ventromesal process. Aedeagus with usual basal and mesal lobes and processes; central tube slightly curved, bearing apically pair of long, slender processes; apex membranous with central spine.

*Material.*—Holotype male: COSTA RICA, Corcovado, Estacion Sirena, 7 Feb 1981, J. Bueno; deposited in IBUNAM.

Paratypes: Same data as holotype; 2 males deposited in IBUNAM and 1 male deposited in USNM.

*Remarks.*—This species seems to be somewhat related to *P. chontala* Flint (1974), but differs from that species by the shape of the aedeagus, tenth tergum, and especially in the eighth sternum which has a broadly rounded ventral lobe and a pointed dorsal lobe only barely surpassing the ventral one.

*Protophila ticumanensis*, new species

Fig. 2

*Adult.*—Length of forewings, 4 mm. Color reddish brown in alcohol. Sixth sternum with a small compressed apicommesal process.

Male genitalia: Eighth sternum emarginate apicommesally with each side of emargination ending in acute, sclerotized apex. Ninth sternum with two short,

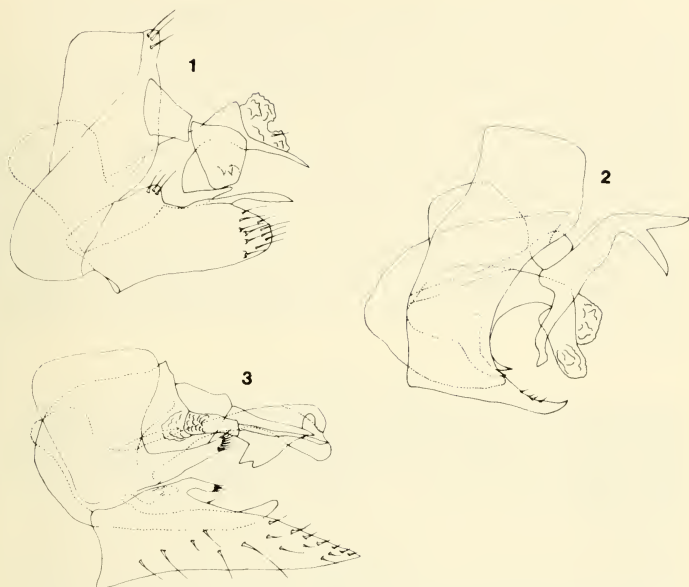


Fig. 1. *Protoptila tica*, male genitalia, lateral view. Fig. 2. *Protoptila ticumanensis*, male genitalia, lateral view. Fig. 3. *Protoptila pseudopiacha*, male genitalia, lateral view.

sinuous, apicomeral spines produced posteriad. Tenth tergum with small, basal, cylindrical section; apical section with elongate dorsal and ventral arms; dorsal arm bilobed with both lobes tapering to apices; ventral arm sinuous, apex tapering and directed mesially. Aedeagus with pair of ventral sharply pointed appendages; central tube strongly angulate, apical portion wider and bilobed; with pair of ventromesial processes.

*Material*.—Holotype male: MEXICO, Morelos, Ticuman, 7 Feb 1981, L. Marino; deposited in IBUNAM.

Paratype: Same data as holotype, 1 male; deposited in USNM.

*Remarks*.—This species appears to be most closely related to *P. mayana* Flint (1974). From that species, *P. ticumanensis* may be recognized by the dorsolateral bifurcation of the tenth tergum and the shape of the aedeagus, especially the ventral processes.

*Protoptila pseudopiacha*, new species

Fig. 3

*Adult*.—Length of forewing, 3 mm. Color, reddish in alcohol. Sixth sternum with very long, cylindrical mesal process about as long as sternum.

Male genitalia: Eighth tergum with apically setose, posteroventral process. Eighth

sternum elongate, tapering to narrow apex, with short, apically setose basodorsal process. Ninth sternum slender, elongate, produced posteriad. Tenth tergum with basal section rectangular; apical segment triangular and produced into postero-dorsal point and two ventral processes. Aedeagus with typical basal lobes; with long, slender, central process arising from membranous base; central tube slender, apex enlarged, scooplike.

*Material*.—Holotype male: MEXICO, Oaxaca, Guelatao, 1800 m, 9 Mar 1978, J. Bueno; in the USNM.

Paratype: Mexico, Durango, Rio Mimbres, 18 Aug 1977, J. Bueno, 1 male; in the collection of IBUNAM.

*Remarks*.—This species is, perhaps, distantly related to *Protoptila piacha* Mosely (1954). From that species, *P. pseudopiacha* may be recognized by the ventro-lateral process on the eighth tergum, the small basodorsal process with a number of setae on the eighth sternum, and the tenth tergum with two short, ventrally situated points.

#### Acknowledgments

The author extends sincere thanks to Dr. Oliver S. Flint, Jr., and Dr. Paul J. Spangler of the National Museum of Natural History, Smithsonian Institution, for reading and commenting on the manuscript; to Mrs. Phyllis Spangler for her aid in editing the paper, and Mr. L. Marino, who collected part of the material here described.

#### Literature Cited

- Flint, O. S., Jr. 1967. Studies of Neotropical Caddisflies, IV: New Species from Mexico and Central America.—Proceedings of the United States National Museum 123(3608):1–24.
- . 1974. Studies of Neotropical Caddisflies, XVIII: New Species of Rhyacophilidae and Glossosomatidae (Trichoptera).—Smithsonian Contributions to Zoology 169:1–30.
- Mosely, Martin E. 1937. Mexican Hydroptilidae (Trichoptera).—Transactions of the Royal Entomological Society of London 86:151–190.
- . 1954. The Protoptila Group of the Glossosomatinae (Trichoptera: Rhyacophilidae).—Bulletin of the British Museum, Entomology 3:317–346.

Instituto de Biología, Universidad Nacional Autónoma de México, Apdo. postal 70-153, México 04510, D.F.